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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/747,383
Filing Date: December 22, 2000
Appellant(s): VLASSELAER ET AL.

Viola T. Kung
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 1/25/2007 (and revised on 5/31/2007) appealing from the Office action mailed 7/12/2006.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences, which have decided and have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is essentially correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal in the brief is correct.

(7) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

Huland et al. (U. S. Patent No. 5, 780, 012)

Debs. et al. (J. of. Immunology, Vol. 140: pp 3482-3488)

Ruskewicz et al. (U. S. Patent No. 5, 971, 951)

Nayar et al. (U. S. Patent No. 5, 874, 408)

Hora et al. (U. S. Patent No. 5, 078, 997)

Jaffe et al. (J. Clinical Investigation, Vol. 88: pp 297-302)

Weller et al. (J. of Immunology, Vol. 150: pp 2554-2562)

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

A. Claims 16-23 and 25-28 are rejected under 35 U.S.C 103(a) as obvious over Huland et al. (U.S. Patent No. 5,780, 012) in view of both Debs. et al. (J. of. Immunology, Vol. 140: pp 3482-3488) and Ruskewicz et al. (U. S. Patent No. 5, 971, 951), and further evidenced by Nayar et al. (U. S. Patent No. 5, 874, 408) or Hora et al. (U. S. Patent No. 5, 078, 997).

Huland et al. teaches various aerosol compositions containing cytokines for reducing lung afflictions. The reference teaches various examples in which cytokines have been combined with mannitol and polysorbate like polysorbate 80 (see example 5). Although the specific example teaches that the composition contains 5 mg of mannitol, the specification also recites that the mannitol concentration could be 0.001 mg/ml to about 0.020 g/ml that includes the limitation of claim 18 (column 5, lines 55-60). In addition, the reference also teaches that the composition contains detergents as dispersing agents. These agents including polysorbate are present in a concentration of about 0.01mg/ml to about 0.5 mg/ml that includes the limitation of claim 20 (column 5, line 60- column 6, line 5). The composition contains about one million units of cytokines

(column 6, lines 41-43). The composition containing mannitol and polysorbate in the above mentioned concentrations would have comparable viscosity to that of claim 21 and be capable of being aerosolized. This is because the viscosity of a compound at a given temperature is proportional to the radius of the capillary. Although Huland et al. describe cytokine IL-2 extensively, they also describe interferon gamma (column 4, lines 53-54). However, the reference does not expressly discuss the volume diameter of the droplets used in the delivery.

The Debs et al. reference teaches the use of aerosolized IFN-gamma to stimulate alveolar macrophage and blood monocyte function (abstract). It also discusses that IFN-gamma activates macrophages to release IL-1, express class II HLA (Ia) surface Ag, and lyse tumor cells. Although the reference does not expressly discuss the stimulation of HLA-DR antigen expression, stimulation of HLA-DR antigen expression is an inherent property of IFN-gamma as indicated by Weller et al. (1993).

Ruskewicz et al. is relied upon to describe the aerosol extrusion mechanism. It teaches that when the formulation is forced through the flexible porous membrane it will form an aerosol preferably having a particle size in the range of about 1 to 12 microns, more preferably of about 3.0 to 6.0 microns (column 17, lines 57-60). Furthermore, the reference also teaches that a compound can be directed to a particular area of the lung which needs treatment by adjusting the aerosol particles size (column 17, lines 38-40). See MPEP § 2144.05 [R-5] for case law pertaining to rejections based on the overlap of ranges. "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257,

191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990) (The prior art taught carbon monoxide concentrations of "about 1-5%" while the claim was limited to "more than 5%." The court held that "about 1-5%" allowed for concentrations slightly above 5% thus the ranges overlapped.)". It would have been obvious to one of ordinary skill in the art at the time the invention was made to generate a composition containing mannitol and polysorbate with a specific viscosity, as described by Huland et al., because Debs et al. teaches that the aerosolized IFN-gamma can be delivered to respiratory tract and is capable of stimulating HLA-DR antigen expression; Ruskewicz et al. teaches the aerosol extrusion mechanism. One of ordinary skill in the art would have been motivated to use aerosolized IFN-gamma generated by forcing the composition thru defined–size openings to deliver to the respiratory tract specifically to stimulate HLA-DR antigen expression. The following evidentiary art describe serum free stabilized proteins (Nayar et al., U.S. Patent No: 5, 874, 408) and pharmaceutical composition for IL-2 containing physiologically compatible stabilizers (Hora et al., U.S. Patent No: 5, 078, 997) that were available prior to the filing of the instant invention which recite compositions having sugar, amino acid, alcohol or a combination thereof as a stabilizing agent. Thus the claimed invention would have been *prima facie* obvious as a whole at the time it was made, especially in the absence of evidence to the contrary. Therefore, the instant invention is obvious over Huland et al. (U. S. Patent No. 5,780,012) in view of Debs et al. (J.of Imm. Vol. 140: 3482-3488) and Ruskewicz et al. (U. S. Patent No. 5,971,951) and further evidenced by Nayar et al. (U. S. Patent No. 5, 874, 408) or Hora et al. (U. S. Patent No. 5, 078, 997).

B. Claims 16-23 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huland et al.(U. S. Patent No. 5,780,012) and Jaffe et al. (J. Cli. Int., 1991, Vol. 88: 297-302) in view of both Debs et al. (J. of Imm., 1988, Vol.140: 3482-3488) and Ruskewicz et al. (U. S. Patent No. 5,971,951) further as evidenced by (Nayar et al., U.S. Patent No: 5, 874, 408 or Hora et al., U.S. Patent No: 5, 078, 997).

Huland et al. teaches various aerosol compositions containing cytokines for reducing lung afflictions. The reference teaches various examples in which cytokines have been combined with mannitol and polysorbate like polysorbate 80 (see example 5). Although the specific example teaches that the composition contains 5 mg of mannitol, the specification also recites that the mannitol concentration could be 0.001 mg/ml to about 0.020 g/ml that includes the limitation of claim 18 (column 5, lines 55-60). In addition, the reference also teaches that the composition contains detergents as dispersing agents. These agents including polysorbate are present in a concentration of about 0.01mg/ml to about 0.5 mg/ml that includes the limitation of claim 20 (column 5, line 60- column 6, line 5). The composition contains about one million units of cytokines (column 6, lines 41-43). The composition containing mannitol and polysorbate in the above mentioned concentrations would have comparable viscosity to that of claim 21 and be capable of being aerosolized. This is because the viscosity of a compound at a given temperature is proportional to the radius of the capillary. Although Huland et al. describe cytokine IL-2 extensively, they also describe interferon gamma (column 4, lines

53-54). However, the reference does not expressly discuss the volume diameter of the droplets used in the delivery.

Jaffe et al. teaches rIFN - γ formulated in an excipient composed of sodium succinate, mannitol, and polysorbate 20 (page 298). This confers stability to the composition as evidenced by Nayar et al. and Hora et al. without including serum albumin in the composition. rIFN - γ has a specific activity of 2.7×10^7 U/mg (page 298). Further the aerosol droplets were in the size range of 0.2-3 μm allowing for deposition in the lower respiratory tract.

The Debs et al. reference teaches the use of aerosolized IFN-gamma to stimulate alveolar macrophage and blood monocyte function (abstract). It also discusses that IFN-gamma activates macrophages to release IL-1, express class II HLA (Ia) surface Ag, and lyse tumor cells. Although the reference does not expressly discuss the stimulation of HLA-DR antigen expression, stimulation of HLA-DR antigen expression is an inherent property of IFN-gamma as indicated by Weller et al. (1993).

Ruskewicz et al. is relied upon to describe the aerosol extrusion mechanism. It teaches that when the formulation is forced through the flexible porous membrane it will form an aerosol preferably having a particle size in the range of about 1 to 12 microns, more preferably of about 3.0 to 6.0 microns (column 17, lines 57-60). Furthermore, the reference also teaches that a compound can be directed to a particular area of the lung which needs treatment by adjusting the aerosol particles size (column 17, lines 38-40). See MPEP § 2144.05 [R-5] for case law pertaining to rejections based on the overlap of ranges. "In the case where the claimed ranges "overlap or lie inside ranges disclosed by

the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990) (The prior art taught carbon monoxide concentrations of "about 1-5%" while the claim was limited to "more than 5%." The court held that "about 1-5%" allowed for concentrations slightly above 5% thus the ranges overlapped.)".

It would have been obvious to one of ordinary skill in the art at the time the invention was made to generate a composition containing mannitol and polysorbate with a specific viscosity, as described by Huland et al., because Jaffe et al and Debs et al. teach that the aerosolized stable IFN-gamma can be delivered to respiratory tract and is capable of stimulating HLA-DR antigen expression; Ruskewicz et al. teaches the aerosol extrusion mechanism. One of ordinary skill in the art would have been motivated to use aerosolized IFN-gamma generated by forcing the composition thru defined–size openings to deliver to the respiratory tract specifically to stimulate HLA-DR antigen expression. Thus the claimed invention would have been *prima facie* obvious as a whole at the time it was made, especially in the absence of evidence to the contrary. Therefore, the instant invention is obvious over Huland et al. (U. S. Patent No. 5,780,012) and Jaffe et al. (J. Cli. Int., 1991, Vol. 88: 297-302) in view of Debs et al. (J.of Imm. Vol. 140: 3482-3488) and Ruskewicz et al. (U. S. Patent No. 5,971,951) further as evidenced by (Nayar et al., U.S. Patent No: 5, 874, 408 or Hora et al., U.S. Patent No: 5, 078, 997).

C. Claims 16-23 and 25-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 22 is rejected as being vague and indefinite in the recitation of the term "biological activity substantially the same". It is unclear if this means the activity is same or within a range. Similarly, claim 22 is also rejected as being vague and indefinite in the recitation of the term "molecular size distribution substantially the same". It is unclear if this means the size is same or within a limited acceptable range. Claims 16-21, 23 and 25-28 are rejected insofar as they depend on rejected claim 22.

(10) Response to Argument

A. Rejection under Sec. 103(a) as obvious over Huland in view of both Debs and Ruskewicz, and further evidenced by Nayar or Hora.

Appellant argues the rejection of claims 16-23 and 25-28 under 35 U.S.C. 103(a) as being obvious over Huland et al. in view of both Debs et al. and Ruskewicz et al., and further evidenced by Nayar et al. or Hora et al. spanning pages 4-8. Briefly, Appellant argues that references of record do not disclose a composition of γ-IFN having the claimed defined particle size range. Appellant quotes from Ruskewicz et al., which states that " an aerosol preferably having a particle size in the range of about 1 to 12 microns, more preferably of about 3.0 to 6.0 microns" (see column 17, line 58-60). Thus, Appellant contends that Ruskewicz does not teach or suggest the claimed particle size range selected from the group consisting of (i) less than 1 micron, (ii) 1-3 microns,

(iii) 3-5 microns, (iv) 5-10 microns, and (v) greater than 10 microns. In addition, Appellant contends each of the claimed particle size ranges has a unique application, such as a particle size of less than 1 micron for treating cystic fibrosis etc. The Ruskewicz et al. is relied upon to describe the aerosol extrusion mechanism. It teaches that when the formulation is forced through the flexible porous membrane it will form an aerosol preferably having a particle size in the range of about 1 to 12 microns, more preferably of about 3.0 to 6.0 microns (column 17, lines 57-60). Furthermore, the reference also teaches that a compound can be directed to a particular area of the lung, which needs treatment by adjusting the aerosol particles size (column 17, lines 38-40). In addition, Ruskewicz et al. reference also teaches aerosol particles that are in the size range of about 0.5 to 12 microns (column 17, lines34-36). Appellant contends that the aerosol droplet particle sizes disclosed in claim 22 are not taught by the references. Specifically, Appellant contends that Ruskewicz reference does not teach or suggest the claimed particle size range of: (i) less than 1 micron, (ii) 1-3 microns, (iii) 3-5 microns, (iv) 5-10 microns, or (v) greater than 10 microns. However, Ruskewicz reference as acknowledged by the Appellant in his response dated 10/6/05 page 4 does teach "an aerosol preferably having a particle size in the range of about 1 to 12 microns, more preferably of about 3.0 to 6.0 microns." In addition, Ruskewicz reference also teaches aerosol particles that are in the size range of about 0.5 to 12 microns (column 17, lines34-36). Furthermore, the reference also teaches that a compound can be directed to a particular area of the lung, which needs treatment by adjusting the aerosol particles size (column 17, lines 38-40). Therefore, Ruskewicz reference makes the

instant invention obvious over prior art. See MPEP § 2144.05 [R-5] for case law pertaining to rejections based on the overlap of ranges. "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990) (The prior art taught carbon monoxide concentrations of "about 1-5%" while the claim was limited to "more than 5%." The court held that "about 1-5%" allowed for concentrations slightly above 5% thus the ranges overlapped.)". Although, Appellant argues that the disclosure of an aerosol droplet particle sizes covering a wide range of values does not make obvious an invention defining aerosols of more narrowly defined particle size ranges (Appellant asserts that MPEP § 2144.05 [R-5] is not applicable here), MPEP § 2144.05 [R-5] clearly makes it obvious for narrow ranges that are present within a disclosed range. Further, the Appellant argues that the Examiner is using hindsight reasoning (page 6 of the response) to arbitrarily change the 6 micron size described in Ruskewicz to 5.4 micron, then round off 5.4 micron in order to produce the claimed 5 micron value. As noted in the Office Action dated 12/29/2005 (page 3), if the term "about" was taken to mean 10% variation, that would mean a range of 3 to 5.4 micron. This rounded to 2 significant figures as recited in the present invention that would encompass 3-5 micron (see column 17, lines 40-50). In addition, 1-3 microns, 3-5 microns and 5-10 microns all overlap with referenced 3-6 microns. Further, droplet size of less than 1 micron and greater than 10 microns are also encompassed by the disclosure Ruskewicz reference because 0.5 microns and 12 microns are clearly less than 1.0 micron and greater than

10 microns respectively. Therefore, the particle sizes that are less than 1 micron, 1-3 microns, 3-5 microns, 5-10 microns and greater than 10 microns are all obvious over the prior art. Thus contrary to Appellant's assertions references in combination make the instant invention obvious over prior art.

Appellant also contends that Debs does not measure the IFN-γ biological activity before and after aerosolization. It is their contention that mere presence of some stimulatory potency in an aerosolized composition does not mean that substantially the same IFN-γ biological activity remains in the aerosol droplets as compared with the formulation prior to aerosolization. Appellant also asserts that biologically active form of IFN-γ is made up of two monomers held together by a non-covalent bond. Appellant further point to the declaration filed 2/17/2004 by the Appellant to argue that it was known in the art that shear forces and other physico-chemical challenges such as those encountered during an attempt to aerosolize a liquid IFN-γ solution are not well tolerated by the molecule. Appellant also argues that the Examiners' s assumption is incorrect because rHuTNF-α and IFN-γ are structurally and chemically distinct proteins. Further, it is asserted that the ability to aerosolize one cytokine (rHuTNF-α) without loss of its activity does no indicate the ability to aerosolize another cytokine (IFN-γ), which tends to monomerize or aggregate, without loss of IFN-γ activity. Appellant's contention is that based on Debs' teaching of rHuTNF-α, a skilled person would not derive the conclusion that IFN-γ can retain full biological activity after aerosolization.

Although, the Debs reference does not measure the IFN-γ biological activity before and after aerosolization, it does measure the biological activity of rHuTNF-α

(another cytokine). As discussed in the Office Action dated 10/29/2004 (page 3), Debs et al. provide an analysis of rHuTNF- α recovered as a condensate after aerosolization demonstrated that it retained full biological activity, as indicated both by migration non-denaturing gels (page 3487, 3rd paragraph). Debs et al. reference also demonstrated the biological activity of aerosolized IFN-gamma by stimulating alveolar macrophage and blood monocyte function (abstract). The reference also discussed that aerosolized IFN-gamma activates macrophages to release IL-1, express class II HLA (Ia) surface Ag, and lyse tumor cells. It is noted that the claim limitation only requires that the IFN-γ aerosol composition have substantially the same biological activity as that of the aqueous IFN-γ solution, which the prior art aerosolized IFN-γ discussed contains. In addition, there is no teaching or evidence to indicate that the biologically active IFN-γ disclosed in the prior art is not a multimeric protein. Although, Appellant based on the declaration of 2/17/2004, argues that it was known in the art that shear forces and other physico-chemical challenges such as those encountered during an attempt to aerosolize a liquid IFN-γ solution are not well tolerated by the molecule, there is no evidence to suggest aerosolization of the prior art IFN-γ, with aerosolization methods similar to that of the instant invention would adversely affect the biological activity of aerosolized IFN-γ .The declaration filed on 2/17/2004 by Peter Van Vlassalaer was considered in the Office Action dated 10/29/2004 (page 5). In assessing the weight to be given expert testimony, the examiner may properly consider, among other things, (1) the nature of the fact sought to be established, (2) the strength of any opposing evidence, (3) the interest of the expert in the outcome of the case, and (4) the presence

or absence of factual support for the expert's opinion. See Ex parte Simpson, 61 USPQ2d 1009 (BPAI 2001), Cf. Redac Int'l. Ltd. v. Lotus Development Corp., 81 F.3d 1576, 38 USPQ2d 1665 (Fed. Cir. 1996), Paragon Podiatry Lab., Inc. v. KLM Lab., Inc., 948 F.2d 1182, 25 USPQ2d 1561, (Fed. Cir. 1993). Affidavits or declarations are provided as evidence and must set forth facts, not merely conclusions. In re Pike and Morris, 84 USPQ 235 (CCPA 1949). (1) In the instant case, the nature of the fact sought to be established is whether or not the aerosolized IFN-γ maintains the biological activity of IFN-γ solution. (2) There is no specific teaching in the Peter Van Vlassalaer declaration to indicate that the aerosolization process has affected aerosolized IFN-γ of the prior art. (3) Regarding the interest of the expert in the outcome of the case, it is noted that Peter Van Vlassalaer is the inventor of the instant invention and is also employed by the assignee. (4) Finally, Peter Van Vlassalaer does not include any data in the declaration so that the examiner could independently evaluate the assertions.

While it is true that the ability to aerosolize one cytokine (rHuTNF-α) without loss of its activity does no indicate the ability to aerosolize another cytokine (IFN-γ), which tends to monomerize or aggregate, without loss of IFN-γ activity, the Debs et al reference does stimulate alveolar macrophage and blood monocyte function (abstract) by aerosolized IFN-gamma. In addition, the reference also discussed that aerosolized IFN-gamma activates macrophages to release IL-1, express class II HLA (Ia) surface Ag, and lyse tumor cells. Thus, the IFN-γ aerosol compositions of the prior art have substantially the same biological activity as that of the non-aerosol aqueous IFN-γ solution.

Appellant also contends that none of the combined references describe a composition of IFN-γ with substantially the same molecular size distribution after aerosolization. Appellant's arguments with respect to molecular size is noted, however, the disclosure by the prior art of aerosolized IFN-γ that is functional (see above) would imply that the aerosolized IFN-γ would have molecular size distribution that is substantially the same as that of the aqueous IFN-γ (This was also discussed in the Office Action dated 11/17/2003 pages 3-5). See In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. Thus, contrary to Appellants assertions IFN-γ with substantially the same molecular size distribution after aerosolization is obvious over prior art. Therefore, the instant claims are *prima facie* obvious over Huland et al. in view of both Debs et al. and Ruskewicz et al., and further evidenced by Nayar et al. or Hora et al.

B. Rejection under Sec. 103(a) as obvious over Huland and Jaffe in view of both Debs and Ruskewicz, and further evidenced by Nayar or Hora.

Appellant argues the rejection of claims 16-23 and 25-28 under 35 U.S.C. 103(a) as being obvious over Huland et al. and Jaffe et al. in view of both Debs et al. and Ruskewicz et al., and further evidenced by Nayar et al. or Hora et al. spanning pages 8-

9. Briefly Appellant argues that Huland, Ruskewicz, Nayar and Hora do not render claims 16-23 and 25-28 obvious (see above 10A for a discussion on these references). Further, it is argued that the addition of Jaffe does not cure the deficiency of the other references.

Appellant asserts that although Jaffe discloses that IFN-γ can be aerosolized and inhaled while retaining some biological activity after reaching the lower respiratory tract, Jaffe does not show that the biological activity of the aerosolized IFN-γ is substantially the same as that of the aqueous IFN-γ solution. It is also argues that Jaffe reference does not show that the molecular size distribution of the aerosolized IFN-γ is substantially the same as that of the aqueous IFN-γ solution. Contrary to Appellants assertions Jaffe et al. reference clearly teaches that " Preliminary in vitro testing demonstrated that rIFN-γ aerosolized in this fashion retains its structure and function as an inducer of IFN-γ-specific genes and as activator of mononuclear phagocytes" (page 298, 2nd column, see also page 301). Therefore, it is clear that aerosolized IFN-γ disclosed in Jaffe et al. contain substantially the same biological activity and substantially the same molecular size distribution of the aqueous IFN-γ (retain the structure and function). Therefore, the instant claims are *prima facie* obvious over Huland et al. and Jaffe et al. in view of both Debs et al. and Ruskewicz et al., and further evidenced by Nayar et al. or Hora et al.

C. Rejection as unpatentable under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Appellants regard as the invention.

Appellant argues the rejection of claims 16-23 and 25-28 under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter. Specifically, it is unclear if the term "biological activity substantially the same" means the activity is same or within a range. Specification does not provide any guidance for biological activity that is substantially the same. For example, if the aerosol droplet lyses 50% of tumor cells will it be considered to be having substantially same biological activity? In the absence of the general guidelines contained in the specification "substantially same biological activity" remains indefinite. It is also unclear if the phrase "molecular size distribution substantially the same" means the size is same or within a limited acceptable range. Specification does not provide general guidelines for molecular size distribution that is substantially the same. In re Mattison, 509 F.2d 563, 184 USPQ 484 (CCPA 1975) and Andrew Corp. v. Gabriel Electronics, 847 F.2d 819, 6 USPQ2d 2010 (Fed. Cir. 1988) are not applicable because the specification of the instant invention does not provide general guidelines.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interference section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Jegatheesan Seharaseyon

Art Unit 1647

August 29, 2007

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